

CLAIMS:

1. A flexible resin composition comprising poly(arylene ether) resin, syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene copolymer, and a non-halogen fire retardant.
2. The composition of Claim 1, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.08 to about 0.60 dl/g, measured at 25°C in chloroform.
3. The composition of Claim 1, wherein the poly(arylene ether) is poly(2,6-dimethyl-1,4-phenylene) ether.
4. The composition of Claim 1, wherein the poly(arylene ether) is modified with a modifier having a polar group.
5. The composition of Claim 1, wherein the poly(arylene ether) is present in an amount of about 5 to about 60 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.
6. The composition of Claim 1, wherein the syndiotactic polystyrene has a syndiotacticity of 30% or more expressed in terms of the content of the racemic pentad.
7. The composition of Claim 1, wherein the syndiotactic polystyrene has a weight average molecular weight greater than or equal to about 10,000 atomic mass units as determined by gel permeation chromatography.
8. The composition of Claim 1, wherein the syndiotactic polystyrene is modified with a modifier having a polar group.
9. The composition of Claim 1, wherein the syndiotactic polystyrene is present in an amount of 0 to about 35 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.

10. The composition of Claim 1, wherein the olefin elastomer is a random copolymer of ethylene and one or more alpha-olefins having 3 to 12 carbon atoms.

11. The composition of Claim 1, wherein the olefin elastomer is an ethylene-octene copolymer.

12. The composition of Claim 1, wherein the olefin elastomer is present in an amount of about 5 to about 50 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.

13. The composition of Claim 1, wherein the hydrogenated styrene-butadiene block copolymer has a styrene content greater than or equal to about 40% by weight, based on the total weight of the hydrogenated styrene-butadiene block copolymer:

14. The composition of Claim 13, wherein the hydrogenated styrene-butadiene block copolymer has a styrene content greater than or equal to about 50% by weight, based on the total weight of the hydrogenated styrene-butadiene block copolymer.

15. The composition of Claim 13, wherein the hydrogenated styrene-butadiene block copolymer has a number average molecular weight of about 5,000 to about 1,000,000 atomic mass units.

16. The composition of Claim 1, wherein the hydrogenated styrene-butadiene block copolymer has at least 80% of the double bonds of butadiene hydrogenated.

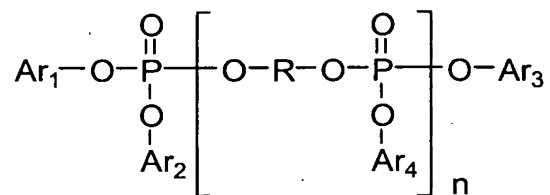
17. The composition of Claim 1, wherein the hydrogenated styrene-butadiene block copolymer is present in an amount of about 3 to about 30 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.

18. The composition of Claim 1, wherein the non-halogen fire retardant is a phosphate ester fire retardant.

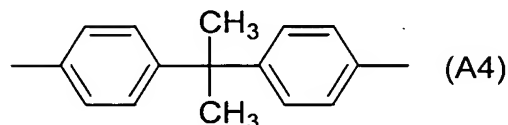
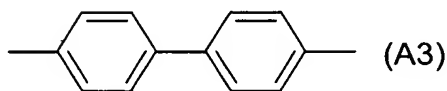
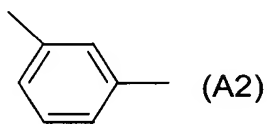
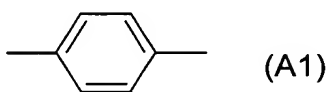
19. The composition of Claim 1, wherein the non-halogen fire retardant is selected from the group consisting of trimethyl phosphate, triethyl phosphate, tripropyl phosphate, tributyl phosphate, tripentyl phosphate, trihexyl phosphate, tricyclohexyl phosphate, triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, dimethyl ethyl phosphate, methyl dibutyl phosphate, ethyl dipropyl phosphate, hydroxyphenyl diphenyl phosphate, and combinations of two or more of the foregoing.

19. The composition of Claim 1, wherein the non-halogen fire retardant is an aromatic polyphosphate ester.

20. The composition of Claim 1, wherein the non-halogen fire retardant is a polyphosphate ester represented by the following formula:



where R has one of the following structures:



n varies from 1 to 10, and Ar₁ to Ar₄ are a phenyl group, tolyl group or xylyl group.

21. The composition of Claim 1, wherein the non-halogen fire retardant is present in an amount of about 5 to about 25 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.

22. The composition of Claim 1, wherein the syndiotactic polystyrene is present in an amount of 5 to about 35 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant.

23. An electric wire comprising the composition of Claim 1.

24. A flexible resin composition comprising poly(arylene ether) resin, syndiotactic polystyrene, a polyethylene-octene copolymer, hydrogenated styrene-butadiene copolymer, and a non-halogen fire retardant.

25. A flexible resin composition comprising poly(arylene ether) resin, syndiotactic polystyrene, a polyethylene-octene copolymer, hydrogenated styrene-butadiene copolymer having a styrene content greater than or equal to about 50% by weight, based on the total weight of the hydrogenated styrene-butadiene block copolymer, and a non-halogen fire retardant, wherein the hydrogenated styrene-butadiene copolymer has a styrene content greater than or equal to about 50% by weight, based on the total weight of the hydrogenated styrene-butadiene block copolymer.